

What is claimed is:

1. A wavelength division multiplexed optical transmission system wherein a dispersion-shifted fiber whose zero-dispersion wavelength is in the 1550 nm region,  
5 wherein:

a maximum absolute value of dispersion coefficient of said dispersion-shifted fiber is 3.5 [ps/(nm · km)] between 1525 and 1575 nm in optical signal wavelengths;  
among wavelength multiplexed optical signals, the wavelengths of either of at least two optical signals are allocated between 1450 nm and 1530 nm, or between 1570  
10 and 1650 nm.

2. A wavelength division multiplexed optical transmission system according to Claim 1 wherein:

among said wavelength multiplexed optical signals, the wavelengths of at least  
15 two of the optical signals are allocated between 1450 nm and 1530 nm.

3. A wavelength division multiplexed optical transmission system according to Claim 1 wherein:

among said plurality of wavelength multiplexed optical signals, the  
20 wavelengths of at least two of the optical signals are allocated between 1570 nm and 1650 nm.

4. A wavelength division multiplexed optical transmission system according to Claim 1 wherein:

among wavelength multiplexed optical signals, the wavelengths of either of at least two optical signals are allocated between 1450 nm and 1530 nm, and between  
25 1570 and 1650 nm.

5. A wavelength division multiplexed optical transmission system according to Claim 4 wherein:

30 the optical signal whose wavelength is allocated between 1450 nm and 1530

10007100-120507

nm and the optical signal whose wavelength is allocated between 1570 nm and 1650 nm propagate along said dispersion-shifted fiber in opposite directions.

6. A wavelength division multiplexed optical transmission system wherein a dispersion-shifted fiber whose zero-dispersion wavelength is in the 1550 nm region, wherein:

a maximum absolute value of dispersion coefficient of said dispersion-shifted fiber is  $3.5 \text{ [ps/(nm} \cdot \text{km)]}$  between 1525 and 1575 nm in optical signal wavelengths;

the wavelength of multiplexed optical signals are allocated between 1450 nm and 1570 nm, and 1570 nm and 1650 nm;

the optical signal whose wavelength is allocated between 1450 nm and 1570 nm, and the optical signal whose wavelength is allocated between 1570 nm and 1650 nm propagate along said dispersion-shifted fiber in opposite directions; and

at least the optical wavelength differences of the optical signals whose wavelength is 1505 nm or greater and 1565 or less are unequally spaced.

7. A wavelength division multiplexed optical transmission system wherein a dispersion-shifted fiber whose zero-dispersion wavelength is in the 1550 nm region, wherein:

a maximum absolute value of dispersion coefficient of said dispersion-shifted fiber is  $3.5 \text{ [ps/(nm} \cdot \text{km)]}$  between 1525 and 1575 nm in optical signal wavelengths;

the wavelengths of said plurality of multiplexed optical signals are allocated between 1450 nm and 1530 nm and between 1530 nm and 1650 nm,

the optical signal whose wavelength is allocated between 1450 nm and 1530 nm, and the optical signal whose wavelength is allocated between 1530 nm and 1650 nm propagate along the dispersion-shifted fiber in opposite directions, and

at least the optical wavelength differences of the optical signals whose wavelength is 1535 nm or greater and 1595 or less are unequally spaced.

8. A wavelength division multiplexed optical transmission method in which a dispersion-shifted fiber whose zero dispersion wavelength is in the 1550 nm region is a

transmission path, wherein:

a maximum absolute value of dispersion coefficient of said dispersion-shifted fiber is  $3.5 \text{ [ps/(nm} \cdot \text{km)]}$  between 1525 and 1575 nm in optical signal wavelengths;

- among wavelength multiplexed optical signals, the wavelengths of either of at  
5 least two optical signals are either allocated between 1450 nm and 1530 nm, or between 1570 and 1650 nm.

10007100-120601